(No Model.) 3 Sheets—Sheet 1.

LA M. A. THOMPSON.

PLEASURE RAILWAY.

No. 422,466. Patented Mar. 4, 1890.

Fig. 1.

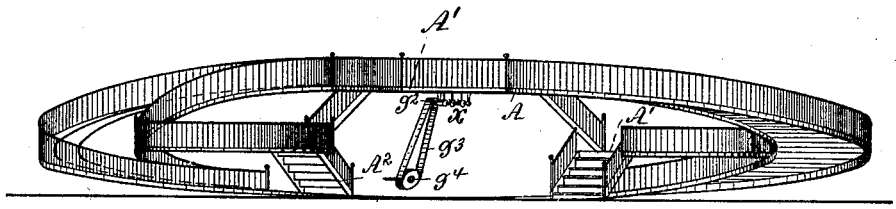


Fig. 2.

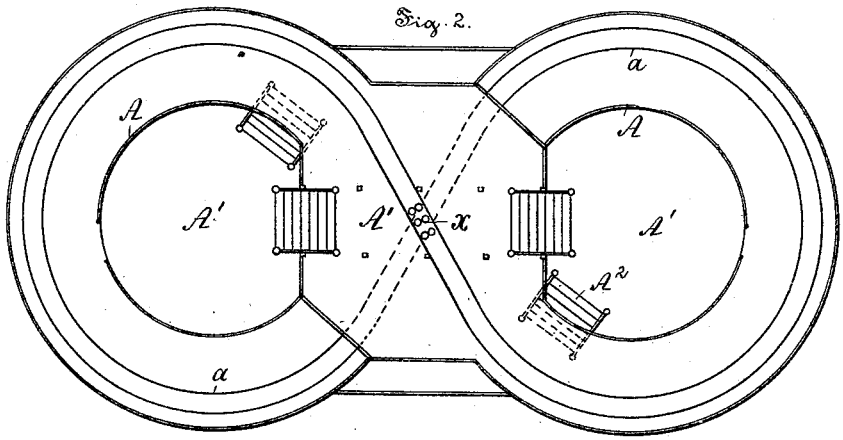
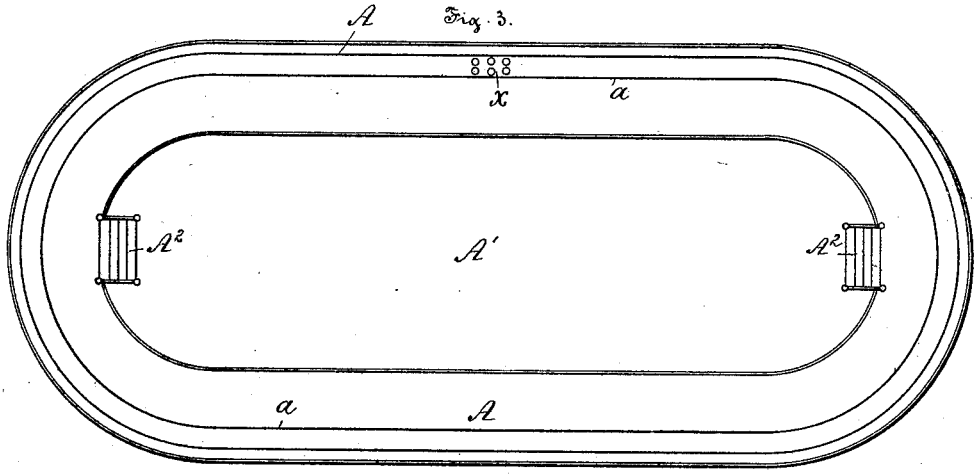


Fig. 3.



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(No Model.) 3 Sheets—Sheet 2.

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PLEASURE RAILWAY.

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Fig. 4.

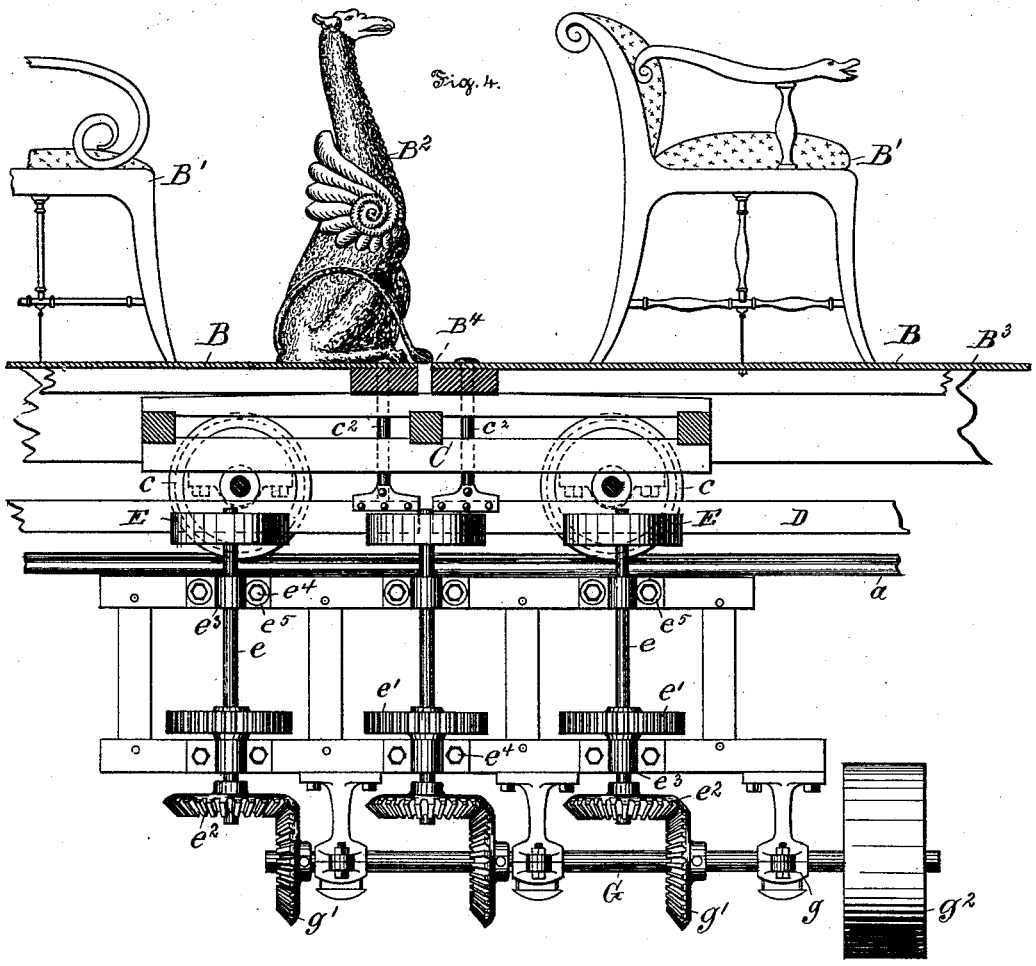
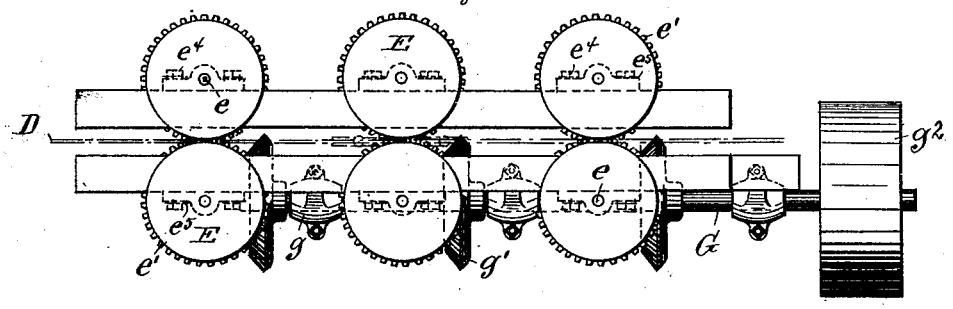


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

LA M. A. THOMPSON.

PLEASURE RAILWAY.

No. 422,466. Patented Mar. 4, 1890.

Fig. 6.

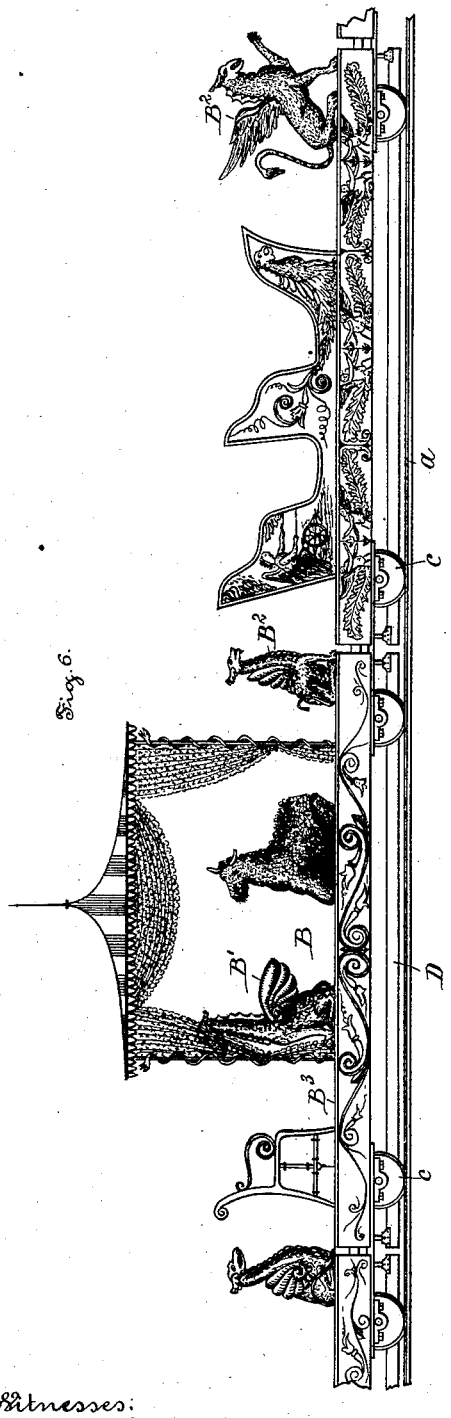
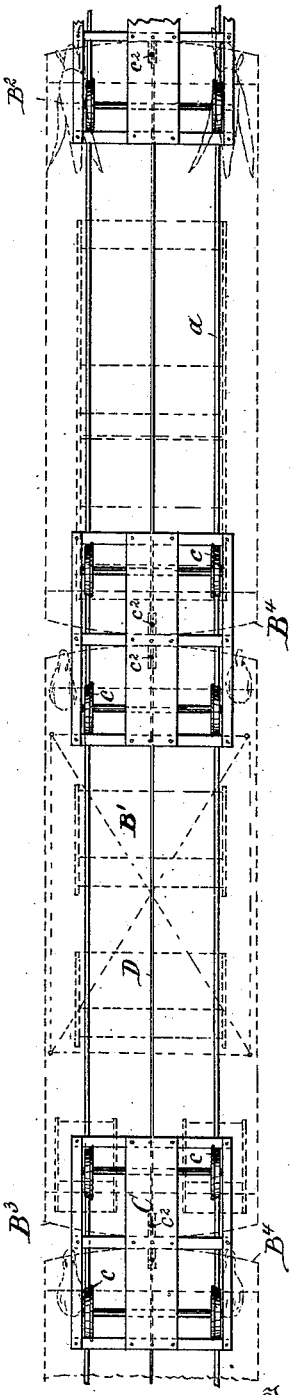


Fig. 7.



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UNITED STATES PATENT OFFICE.

LA MARCUS A. THOMPSON, OF PHILADELPHIA, PENNSYLVANIA.

PLEASURE-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 422,466, dated March 4, 1890.

Application filed September 16, 1889. Serial No. 324,081. (No model.)

To all whom it may concern:

Be it known that I, LA MARCUS A. THOMPSON, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pleasure-Railways, of which the following is a specification.

My invention relates to continuous railways for affording pleasure and amusement to persons at seaside resorts, parks, and other places, and more especially of the type in which passenger coaches or cars of various designs are by means of a stationary engine or other prime mover caused to travel continuously over a course or road-bed.

Heretofore motion has been transmitted to the coaches or cars by means of an endless cable propelled by motive power, in which the same was automatically gripped by suitable devices provided beneath each coach or car. Although in practice such mode of propelling cars and coaches over such railways has operated satisfactorily, still some disadvantages have been encountered, more especially that of failure of the grip to always engage with the cable and insure thereby uniformity and certainty in the movement of the cars or coaches over the course.

The principal objects of my present invention are, first, to overcome the disadvantages incident to the use of a cable and automatic gripping devices in connection with the cars or coaches; second, to provide efficient and durable mechanism to transmit motion from a stationary engine or other suitable power to the passenger coaches or cars and to cause the same to traverse the course with a uniform gliding and exhilarating motion, and, third, to mount the passenger coaches or cars upon trucks so as to form a solid train extending over the entire course, and thereby insure safety, smoothness, and an easy movement of the entire train of coaches or cars over the course.

My invention consists of a continuous railway course whereupon cars or coaches of different designs, having adjacent ends of each two connected by separate swivel or king bolts with a truck, are propelled over the course by means of friction-rolls contacting with a strip or strips which is or are connected with the said cars or coaches, as hereinafter more particularly described.

My invention further consists of certain novel features in the construction of the roadway and of coaches or cars, as hereinafter more particularly described.

In the accompanying drawings, forming part hereof, Figure 1 is a perspective view of the undulating course of the continuous roadway and an endless belt for driving the mechanism to cause the friction-rolls to be actuated. Fig. 2 is a top or plan view of the same, showing the general arrangement of the track and position of the friction-rolls. Fig. 3 is a plan or top view of a modified form of the superstructure and continuous roadway thereof. Fig. 4 is an elevation of a portion of the rails and of two passenger coaches or cars with the front portions thereof removed, and showing also the adjacent ends of two coaches or cars mounted on the same truck by means of separate king-bolts and the vertical strip with which engage the friction-rolls. Fig. 5 is a plan or top view of the friction-rolls and of the means for driving them, and, in dotted lines, the strips secured to the under side of the passenger coaches or cars and in frictional contact with a series of rolls, whereby motion is imparted thereto. Fig. 6 is an elevation of a solid train of passenger coaches or cars mounted upon rails, and showing the metal strips secured to the under side of the coaches or cars, and also the seats for passengers and the animals or other similar configurations mounted thereon; and Fig. 7 is a plan or top view of the same with the platforms of the coaches or cars removed, but showing adjacent ends of two coaches or cars secured to a single truck and arranged in such manner as to permit the train to traverse the curves in the roadway.

Referring to the drawings, and more particularly to Figs. 1, 2, and 3 thereof, A represents the superstructure, preferably constructed of wood; but the same may be constructed of iron or other suitable material. This superstructure may be supported upon trestle-work resting upon the ground or upon suitable hangers and brackets secured to the walls of a building. The trestle-work and hangers have not been shown, as such will be understood without illustration. The su-

perstructure may be arranged in the form of a figure 8, or in any other preferred form. Upon the top of the superstructure A is formed a course for the reception of the rails. Contiguous to the curve or curves of the superstructure is or are a platform or platforms A′, which may be provided with suitable benches for the use of persons desiring to witness the passage of the coaches or cars over the course, or the platforms A′ may be used for dancing, roller-skating, or other amusements or purposes. Access is had to these platforms A′ by means of staircases A^2, leading from the ground. Upon the course of the superstructure A are secured rails *a*, either T-shaped or of any other preferred form to constitute the roadway for the train of coaches and cars to travel over.

The passenger coaches B may be of various designs—for example, in the form of chariots, howdahs, gondolas, ships, or other similar designs—provided with benches or seats B′ and ornamented with griffins and other figures B^2. The platforms B^3 of the passenger coaches or cars B are curved or cut away at their ends B^4, as clearly shown in Fig. 7, in order to permit the train of coaches or cars to adapt itself to the curvature of the road, and thus be permitted to freely travel around or over the course.

C is a truck provided with wheels *c*. These trucks are adapted to receive the king-bolts c^2. The adjacent ends of two platforms B^3 of the cars or coaches are supported by and pivotally connected with one truck C by means of two separate king-bolts c^2, as clearly shown in Figs. 4 and 7, and each king-bolt c^2 is inserted through one extremity of the platform B^3 of a coach or car B.

D is a thin strip of metal or other suitable material of such length as to permit of the train being propelled along or over the roadway. This strip is preferably secured in a vertical position to the king-bolts c^2, passing through each end of the coaches or cars B and the truck C, in order not only to apply the traction force imparted to the train directly to the trucks, but also to permit of the trucks C turning independently of both the strips D and the coaches or cars B. The strips D may, however, be secured to the under side of the coaches in any other preferred manner.

At a suitable point in the course *x*—for example, at the summit of the steepest grade in the roadway or at any other more convenient point—are located one or more sets of positively-driven friction-rolls E, adapted to contact or firmly bear against the strips D, and thereby propel the train of passenger coaches or cars around or over the course continuously, as may be desired.

The frame-work F, Figs. 4 and 5, is secured in a rigid manner either to the superstructure A or to any suitable foundation, and is preferably located between and beneath the rails *a*. The vertical shafts *e*, suitably mounted to prevent end-play, carry friction-rolls E at one extremity and gear-wheels *e′* and beveled gear-wheels e^2 at or near the opposite extremity. These shafts *e* revolve in the bearings e^3, secured to the frame-work F. The gear-wheels *e′* of each set of two or more friction-rolls E mesh with each other, so that the exact rotary movement of one friction-roll is transmitted to the other roll or rolls of the same set, and hence running in unison. The horizontal shaft G, suitably mounted to prevent end-play, revolves in hangers *g*, secured to the frame-work F, and carries beveled gear-wheels *g′*, which mesh with the beveled gear-wheels e^2, and also a pulley g^2, around which and a pulley g^4, in connection with suitable motive power, passes a belt g^3 for imparting motion to the entire mechanism.

Each of the bearings e^3 is bolted to the frame-work F by means of bolts e^4, and in order to insure the strips D while in frictional contact being drawn between the friction-rolls E, a rubber or similar spring-gasket e^5 is inserted between the head of the bolts e^4 and the bearing e^3. The faces of the friction-rolls E or the strips D, or both, may be roughened in any suitable manner, in order to prevent slipping; but good results may be obtained by providing them both with smooth surfaces.

The mode of operation of the continuous pleasure-railway is as follows: The series of passenger coaches or cars B are connected together by means of the king-bolts c^2 with the trucks C to form a solid train extending over the entire course. The vertical strips D are secured to the under side of the series of passenger coaches or cars B, and form, with the exception of small spaces beneath the extremities B^4 of the coaches or cars B, an endless band, which is constantly in engagement with the friction-rolls E. The passengers reach the elevated platforms A′ by means of the staircases A^2. The engine or other preferred type of motive power is then started by the attendant in charge and motion communicated by means of the pulleys g^4 and g^2, in connection with each other, by a belt g^3 to the beveled gear-wheels *g′*, meshing with the beveled gear-wheels e^2, to impart motion to the respective sets of friction-rolls E. The respective sets of rolls E in frictional contact with the strips D impart motion to the train of cars or coaches, and when desired to stop the respective coaches or cars to discharge passengers or for any other purpose the same may be readily effected by the attendant in charge either stopping the engine or other motive power or shifting the series of beveled gear-wheels out of engagement with one another or shifting the belt g^3 in any well-understood manner.

It will be manifestly obvious that the mechanism as to many of its details may be modified without departing from the spirit of the invention. For example, electromotors may be employed as a means for propelling the

series of cars or coaches, and then spur-wheels may be availed of in lieu of the beveled gear-wheels shown to revolve the respective sets of friction-rolls E, and hence I do not wish to be understood as limiting myself to the exact form and arrangement of the parts shown herein to permit of the actuation of the mechanism for propelling the cars or coaches over the undulating or circular course or roadway.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a pleasure-railway provided with tracks, a series of cars or coaches in which adjacent ends are connected by separate king-bolts with a truck, one or more strips connected with said cars or coaches, rolls in frictional contact with said strip or strips, and means for imparting motion to said rolls, substantially as and for the purposes set forth.

2. In combination, a pleasure-railway having a train of cars or coaches in which adjacent ends of each two of the train are connected by separate swivel-bolts with a single truck, one or more strips beneath each car or coach, rolls contacting therewith, and means for actuating said rolls, and thereby propelling said train of cars or coaches, substantially as and for the purposes set forth.

3. In combination, an undulating pleasure-railway having one or more platforms within the structure, a series of cars or coaches having adjacent ends of each two of the series connected by separate bolts with a single truck, a strip supported beneath said cars or coaches, rolls frictionally contacting therewith, and motive power for actuating mechanism to impart motion to said rolls, and thereby propel said cars over the course, substantially as described.

4. In a pleasure-railway, the combination of a train of cars or coaches united with each other by a truck having separate swivel-bolts, a strip, means in frictional contact with said strip, and motive power for actuating said means for propelling said cars or coaches, substantially as and for the purposes set forth.

5. In a pleasure-railway, the combination of one or more sets of positively-driven friction-rolls, a series of cars or coaches provided with one or more vertical strips connected with bolts extending into trucks which connect adjacent ends of each two cars or coaches of the series together and form a continuous belt in engagement with said rolls, and motive power for imparting motion thereto, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

LA MARCUS A. THOMPSON.

Witnesses:
A. B. STOUGHTON,
GEO. W. REED.